

**ABSTRACT OF THE DISCLOSURE**

In an SOI diode structure, the conventional transistor-like MOS configuration is eliminated by replacing the polysilicon line by a completely dielectric region. This region may be used as an implantation mask to control a dopant gradient of a PN-junction that forms 5 below the dielectric region. Moreover, during the salicide process, the dielectric region prevents the PN-junction from being shorted. Thus, a depletion of the active region caused by the MOS structure may be avoided. Therefore, the functioning of the PN-junction is maintained even for extremely thin semiconductor layers.